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THOMAS, KAYDEN, HORSTEMEYER & RISLEY, LLP
100 GALLERIA PARKWAY, NW
STE 1750
ATLANTA, GA 30339-5948

EXAMINER

LEE, TIMOTHY L

ART UNIT	PAPER NUMBER
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2662

DATE MAILED: 12/05/2003

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/657,414

Applicant(s)

GUMMALLA ET AL.

Examiner

Timothy Lee

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 21-23 is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). ____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____ 6) ☐ Other: ____

DETAILED ACTION

Drawings

1. Figure 2 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 6 and 16 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

4. Claims 6 and 16 recite the limitation "said feedback symbol" in lines 1-2. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 1-3, 5, 8-13, 15, and 18-20 are rejected under 35 U.S.C. 102(b) as being anticipated by Tobagi et al. ("Packet Switching in Radio Channels: Part II – The Hidden Terminal Problem in Carrier Sense Multiple Access and the Busy Tone Solution, IEEE, 1975).

7. Regarding claims 1 and 11, Tobagi discloses a busy-tone multiple access system (BTMA). See page 1424. The total available bandwidth is divided into two channels: a message channel and a busy-tone channel (transmit path and a receive path). As long as the station senses carrier on the incoming message channel, it transmits a busy-tone signal on the busy-tone channel to determine the state of the message channel (a feedback generated connected to said local transceiver for generating and transmitting feedback signal in response to said wireless transceiver receiving data). Whenever a terminal has a packet ready for transmission, it senses the busy-tone channel for t seconds at the end of which it decides whether the busy-tone signal is absent (a feedback detector connected to said local transceiver for detecting feedback signals). If it is absent, then the terminal transmits. It is inherent from this statement that there exists a "transceiver capable of transmitting data, via a transmit path while receiving feedback signal via a receive path." See page 1424.

8. Regarding claims 3 and 13, Tobagi discloses that the system is meant for packet-switching in a multiple access broadcast radio channel for communication between terminals (wireless system). See page 1417.

9. Regarding claims 5 and 15, the signal sent on the busy-tone channel is simply a sine-wave, which is a narrow-band signal relative to the message channel, which would be wide-band. See page 1424.

10. Regarding claims 8 and 18, Tobagi discloses that signal detection is based on the SNR of the busy-tone signal over a period of time (energy detector which is capable of detecting a specific amount of energy within a feedback channel, that is representative of a feedback signal). See page 1425.

11. Regarding claims 2, 9, 12, and 19, Tobagi discloses that the terminal will reschedule the packet for transmission at some later time if it detects a signal on the busy-tone channel. Thus, transmission is ceased (or never commenced) when a detection of a feedback signal occurs (ceases transmission of data upon detection of said feedback signal from a second wireless transceiver). See page 1424.

12. Regarding claims 10 and 20, the busy-tone is generated as a simple sine-wave, so the natural amount of energy is naturally derived from the amount of energy the feedback generator is capable of injecting into the system.

Claim Rejections - 35 USC § 103

13. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

14. Claims 4, 7, 14, and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tobagi in light of the rejection to claim 1. Tobagi et al. does not expressly disclose minimizing the attenuation of the received signal or minimizing the self-interference to achieve isolation of the transmit and receive paths. However, it is well-known in the art that one of ordinary skill in

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the art would add such features to the system of Togagi. One would have been motivated to do this because one would not want the signals from the message channel and the busy-tone channel interfering with one another, and limiting self-interference and attenuation are two standard ways of isolating signals.

Allowable Subject Matter

15. Claims 21-23 are allowed.

Conclusion

16. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Chen et al. (US 5,394,391), Bohler et al. (US 4,755,990), Kermani et al. (US 5,661,727), and Chen et al. (US 5,502,724) disclose system that try to optimize communications over a common channel.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Timothy Lee whose telephone number is (703)305-7349. The examiner can normally be reached on M-F, 9-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hassan Kizou can be reached on (703)305-4744. The fax phone number for the organization where this application or proceeding is assigned is (703)872-9314.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)305-4700.

TLL

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HASSAN KIZOU
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600